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BOROUGH OF DURBAN

BUREAU OF HYGIENE & TROPICAL DISEASE
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30 OCT 1934

ANNUAL REPORT

— OF —

BOROUGH MEDICAL OFFICER OF HEALTH

YEAR ENDING
30th JUNE, 1934

165

RAMSAY, PRINTER, DURBAN.

OF HYGIENE
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30 OCT 1934
& TROPICAL DISEASE

BOROUGH OF DURBAN.

THIRTY-THIRD
ANNUAL REPORT.
OF THE
MEDICAL OFFICER OF HEALTH,
FOR
YEAR - 1933-1934.

PUBLIC HEALTH COMMITTEE.
1933 - 1934.

Councillor	Mr. V.L. Shearer.	Chairman.
"	Dr. S. Copley.	Vice-Chairman.
"	Mr. H.B. Gemmell.	
"	Mr. J.M. Harris.	
"	Mr. H.A. O'Connor.	
"	Mr. J. Rainnie.	
"	Mr.G.F. Westgate.	

The Mayor. (ex-officio).
(Mr.P. Osborn)

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GHG/JVM.

PUBLIC HEALTH DEPARTMENT,
DURBAN.

1st August, 1934.

To His Worship the Mayor and
Town Councillors of the Borough of Durban.

Madam and Gentlemen,

I have the honour to submit herewith the Thirty-Third Annual Report dealing with the health and sanitary conditions of the Borough for the year ending 30th June 1934.

VITAL STATISTICS :

The vital statistics for the year ending June 30th 1934 represent the statistics of the first completed 'health' year since extension of the Borough boundaries. They may, therefore, be taken as basal statistics for the new and greater Borough. The change-over, having taken place in a normal year so far as health factors are concerned, no special purpose would appear to be subserved by retaining and repeating figures referable only to the old Borough.

Accuracy in estimating the Non-European population resident in the incorporated areas cannot be expected until such time as a statutory census is taken for the area as a municipal whole.

The following table shows the estimated population.

Vital Statistics/

1. VITAL STATISTICS.

(i) Estimates Population :

DISTRICT.	EUROPEAN.	COLOURED.	NATIVE.	ASIATIC.	TOTAL.
Durban.	60,300	4,530	43,750	19,340	127,920
Greenwood Park.	5,140	Unknown	2,100	5,420	12,660
Sydenham.	2,940	"	4,500	13,750	21,190
Mayville.	2,990	520	4,000	14,750	22,260
Umhlatuzana.	5,230	Unknown.	1,400	3,600	10,230
South Coast Junction.	3,550	"	8,360	14,380	26,790
TOTALS :	80,150	5,050	64,610	71,240	221,050

(ii) BIRTHS :

The total European births registered during the year was 1,297, giving a birth rate per 1,000 of the population of 16.8

NOTIFICATIONS :

DISTRICT.	EUROPEAN.	COLOURED.	NATIVE.	ASIATIC.
Durban.	854	162	7	338
Greenwood Park.	109	9	-	5
Sydenham.	45	18	22	51
Mayville.	34	6	8	28
Umhlatuzana.	59	4	-	2
South Coast Junction.	47	9	-	14
	1,148	208	37	438
Imported.	187	8	-	7
TOTALS:	1,335	216	37	445

REGISTRATIONS :

DISTRICTS.	EUROPEAN.	COLOURED.	NATIVE.	ASIATIC.
Durban.	888	197	320	914
Greenwood Park.	142	11	26	321
Sydenham.	44	32	108	534
Mayville.	33	18	137	525
Umhlatuzana.	108	4	10	138
South Coast Junction.	82	38	44	593
	1,297	300	735	3,035
Imported.	194	14	588	83
TOTALS:	1,491	314	1,323	3,118

STILL BIRTHS :

(iii) Notifications.

DISTRICT.	EUROPEAN.	COLOURED.	NATIVE.	ASIATIC.
Durban.	31	3	-	21
Greenwood Park.	3	-	-	-
Sydenham.	1	-	1	1
Mayville.	1	-	-	-
Umhlatuzana.	5	-	-	-
South Coast Junction.	1	-	-	-
T O T A L S:	42	3	1	22

Registered.

DISTRICT.	EUROPEAN.	COLOURED.	NATIVE.	ASIATIC.
Durban.	31	6	-	-
Greenwood Park.	4	1	-	-
Sydenham.	1	1	-	-
Mayville.	1	-	-	-
Umhlatuzana.	6	-	-	-
South Coast Junction.	2	2	-	-
T O T A L S:	45	10	-	-

(iv) DEATHS - Corrected for Outward Transfers only.

DISTRICT.	EUROPEAN.	COLOURED.	NATIVE.	ASIATIC.	TOTAL.
1 Durban.	577	67	501	673	1,818
2 Greenwood Park.	41	7	122	166	336
3 Sydenham.	29	16	227	247	519
4 Mayville.	29	13	322	159	523
5 Umhlatuzana.	45	5	57	42	149
6 South C.Junction.	36	24	162	215	437
Borough Total :	757	132	1,391	1,502	3,782
9 Imported.	146	9	583	12	750
T O T A L S :	903	141	1,974	1,514	4,532

Death Rate per 1,000 of Population for Europeans equals
.4

(v) Infantile/

(v) INFANTILE MORTALITY :

DISTRICT.	EUROPEAN.	COLOURED.	NATIVE.	ASIATIC.
Durban.	43	18	-	-
Greenwood Park.	5	1	-	-
Sydenham.	3	3	-	-
Mayville.	3	4	-	-
Umhlatuzana.	7	1	-	-
South Coast Junction.	10	7	-	-
TOTALS :	71	34	-	-

Death Rate - Durban - European = 48.42
Death Rate - Durban - Coloured = 91.37

Death Rate - Greater Durban - European = 54.74
Death Rate - Greater Durban - Coloured =113.33

DURBAN - Europeans.

CAUSE.	WEEKS. 0-1	1-2	2-4	MONTHS. 1 -3	3-6	6-12	TOTAL UNDER ONE YEAR
Premature Birth........	13	2	-	1	-	-	16
Congenital Malformation of heart............	3	-	-	-	-	-	3
Other Congenital Malformations..........	-	1	-	1	-	-	2
Injury at Birth.......	6	-	-	-	-	-	6
Congenital Debility...	1	-	-	1	-	-	2
Measles...............	-	-	-	-	-	1	1
Whooping Cough........	-	-	-	1	-	1	2
Diphtheria	-	-	-	-	1	-	1
Simple Meningitis.....	-	-	-	-	-	2	2
Malaria	-	-	-	-	1	-	1
Diarrhoea & Enteritis.	-	-	-	1	7	3	11
Dysentery Bacillary...	-	-	-	-	-	2	2
Pneumonia - Lobar.....	-	-	-	1	3	-	4
Broncho Pneumonia	-	-	-	1	1	3	5
Osteomalacia	1	-	-	-	-	-	1
Diseases of the Thymus Gland	-	-	-	1	1	-	2
Purpura	-	-	-	-	1	-	1
Leucaemia	-	-	-	-	1	-	1
Infantile Convulsions.	-	-	-	1	-	-	1
Intestinal Obstruction	-	-	-	-	1	-	1
Other diseases of the circulatory system..	-	-	-	-	1	-	1
Other diseases peculiar to early infancy....	1	1	-	1	-	1	4
TOTAL :	26	4	-	10	18	13	71

Infantile Mortality Contd.

DURBAN - Coloured.

CAUSE.	WEEKS			MONTHS.			Total unde 1 year.
	0-1	1-2	2-4	1-3	3-6	6-12	
Premature Birth	5	2	-	-	-	-	7
Congenital Debility......	2	-	1	-	-	-	3
Congenital Malformation of Heart	-	-	-	-	1	-	1
Bronchitis - Acute.......	-	-	-	-	2	1	3
Infantile Convulsions....	-	-	-	1	1	-	2
Diarrhoea & Enteritis....	-	-	-	2	4	1	7
Broncho pneumonia	-	-	-	1	2	4	7
Syphilis	-	-	-	-	-	1	1
Malaria	-	-	-	1	-	-	1
Other diseases peculiar to early infancy.......	-	-	-	1	-	-	1
Other Congenital Malfn...	1	-	-	-	-	-	1
TOTAL:	8	2	1	6	10	7	34

2. INFECTIOUS DISEASES.

(i) Hospitalization of Infectious Diseases :

916 Patients were treated at the Infectious Diseases Hospital, including :

DISEASE.	EUROPEAN.	COLOURED.	NATIVE.	ASIATIC.	TOTAL.
Diphtheria.	169	5	21	17	212
Scarlet Fever.	71	4	-	1	76
Typhus Fever.	2	-	4	-	6
E.C.S.M.	1	1	-	-	2

(ii) Ambulance Removals :

HOSPITAL.	EUROPEAN.	COLOURED.	NATIVE.	ASIATIC.	TOTAL.
To :					
Infectious Diseases.	383	69	316	31	799
Government Hospital.	40	13	61	13	127
Private Hospitals.	27	1	46	1	75
	450	83	423	45	1,001

(iii) Disinfecting Station:
During the year the following work was carried out :-

	Rooms Disinfected.	Articles washed & Disinfected.
Private Premises.	540	11,942
Congella Hospital.	-	95,027

HMT/EAR.

2 (i) NOTIFIABLE INFECTIOUS DISEASES:

TABLE:

SUMMARY OF BOROUGH AND IMPORTED CASES - INFECTIOUS DISEASES.

	(BOROUGH)					(IMPORTED)					
	EURO-PEAN.	COL-OURED:	NAT-IVE.	ASIA-TIC.	TOTAL:	EURO-PEAN:	COL-OUR-ED:	NAT-IVE.	ASIA-TIC.	TOTAL:	GRAND TOTAL:
Diphtheria	156	4	14	16	190	4	-	1	-	5	195
Enteric Fever ...	46	8	64	15	133	5	-	25	-	30	163
Scarlet Fever. ...	92	2	-	-	94	-	-	-	-	-	94
Pulmonary Tuberculosis.	80	40	225	110	455	2	-	49	6	57	512
Non-Pulm. Tuberculosis.	-	1	14	13	28	-	-	4	-	4	32
Typhus Fever... ...	6	-	5	-	11	-	-	-	-	-	11
Erysipelas	9	-	1	1	11	-	-	-	-	-	11
Puerperal Fever ...	5	1	9	2	17	-	-	-	-	-	17
Leprosy	-	-	2	-	2	-	-	1	-	1	3
E.C.S.M.	-	-	2	1	3	-	-	-	-	-	3
Ophthalmia.Gon.& Neon.	2	1	-	1	4	-	-	-	-	-	4
TOTAL.	396	57	336	159	948	11	-	80	6	97	1045
Malaria	342	76	573	163	1154	226	28	370	60	684	1838

HMT/EAR.

2 (i) NOTIFIABLE INFECTIOUS DISEASES:

TABLE:

SUMMARY OF BOROUGH AND IMPORTED CASES - INFECTIOUS DISEASES.

	(BOROUGH)					(IMPORTED)					
	EURO-PEAN.	COL-OURED:	NAT-IVE.	ASIA-TIC.	TOTAL:	EURO-PEAN:	COL-OUR-ED:	NAT-IVE.	ASIA-TIC.	TOTAL:	GRAND TOTAL:
Diphtheria	156	4	14	16	190	4	-	1	-	5	195
Enteric Fever ...	46	8	64	15	133	5	-	25	-	30	163
Scarlet Fever. ...	92	2	-	-	94	-	-	-	-	-	94
Pulmonary Tuberculosis.	80	40	225	110	455	2	-	49	6	57	512
Non-Pulm. Tuberculosis.	-	1	14	13	28	-	-	4	-	4	32
Typhus Fever... ...	6	-	5	-	11	-	-	-	-	-	11
Erysipelas	9	-	1	1	11	-	-	-	-	-	11
Puerperal Fever ...	5	1	9	2	17	-	-	-	-	-	17
Leprosy	-	-	2	-	2	-	-	1	-	1	3
E.C.S.M.	-	-	2	1	3	-	-	-	-	-	3
Ophthalmia.Gon.& Neon.	2	1	-	1	4	-	-	-	-	-	4
TOTAL.	396	57	336	159	948	11	-	80	6	97	1045
Malaria	342	76	573	163	1154	226	28	370	60	684	1838

NOTIFIABLE INFECTIOUS DISEASE.

3. TUBERCULOSIS (Including Pulm. Phthisis).

(i) Pulmonary Tuberculosis - all races.

	1928/29	1929/30	1930/31	1931/32	1932/33	1933/1934 Boro.	1933/1934 Imp.
Cases.	338	342	408	363	501	455	57
Deaths.	188	167	207	244	268	335	152

Borough Europeans only :

Cases incidence per 1,000 of Population.....	.9
Case mortality per cent	28.6
Death Rate per 1,000 of population	.28

(ii) Non-Pulmonary Tuberculosis - All races.

	1928/29	1929/30	1930/31	1931/32	1932/33	1933/1934 Boro.	1933/1934 Imp.
Cases.	70	76	42	72	66	28	4
Deaths.	58	36	28	46	64	69	17

No European Cases were reported.

4. VENEREAL DISEASE.

Attendance at Special Clinic, Addington :

Race.	Borough. In Patient.	Borough. Out.Patient.	Imported. Out Patients.
European.	94	4,868	152
Non-European.	847	3,237	559
Babies born in Wards.			13

Injections N.A.B.		Europeans.	Non-Europeans.
	In Patients.	256	1,171
	Out-Patients.	48	1,833
Irrigation.	In-Patients.	3,592	1,785
	Out-Patients.	2,813	10,471

	All Races.
Dilations.	11
Prostate Massage.	4
Wassermann Test.	59
Slides & Smears.	306
Vaccine Injections.	72
Intramine or Contramine.	126
Medicine & Consultations.	1,316
Bis. Metal.	6
Gon. Vacc.	17

(v) VACCINATION :

Re-Vaccination of 12 year Old Children & Others

	DURBAN	P.M.BURG.	REMAINDER OF PROVINCE	TOTALS.
Registration of 12-year old children	1,356	489	1,353	3,198
Successfully vaccinated	1,200	429	1,367	2,996
Insusceptible to Vaccination	96	21	194	311
Vaccination postponed owing to illness......	92	12	101	205
Previously had smallpox.	-	-	-	-
Ratio of Vaccinations and postponements registered to 12-year-old registration during the year.	102.36	94.48	122.84	109.82

EXEMPTION FROM VACCINATION.

	Adults.	Children.	Total.
Applications for Exemptions received..................	1	235	236
Exemption Certificates granted......................	-	219	219

CHILDREN :

	DURBAN.	P.M.BURG.	REMAINDER OF PROVINCE.	TOTALS.
Exemption Certificates granted	132	31	56	219
Applications refused..	7	2	7	16

ADULTS :

	DURBAN.	P.M.BURG.	REMAINDER OF PROVINCE.	TOTALS.
Exemption Certificates granted	-	-	-	-
Applications refused..	-	-	1	1

(v) VACCINATION(Contd)

Infants & Children.

	DURBAN.	P.M.BURG.	REMAINDER OF PROVINCE.	TOTALS.
Births entered in Vaccination Register.......	2,124	686	1,689	4,499
Successfully Vaccinated..	1,306	454	1,517	3,277
Insusceptible to vaccination	44	12	24	79
Vaccination postponed owing to illness..........	429	98	546	1,073
Previously had smallpox..	-	-	-	-
Deaths of Infants under 2 years registered........	181	47	335	563
Ratio of Vaccinations and postponements registered to births registered during the year after allowing for Deaths of Infants under two years.	91.56	88.26	154.14	112.53

Prosecutions - Infants.

	No. sent to Public Prosecutor	No. Fined.	Cautioned and Discharged.	Charge Withdrawn.	Remanded.	Struck Off
Durban.	8	-	1	4	2	1
P.M.Burg.	2	1	1	-	-	-
Rest of Province.	-	-	-	-	-	-

12-year Old Children.

	No. sent to Public Prosecutor	No. Fined.	Cautioned and Discharged.	Charge Withdrawn.	Remanded.	Struck Off
Durban.	6	-	2	4	-	-
P.M.Burg.	-	-	-	-	-	-
Rest of Province.	-	-	-	-	-	-

Plague/

5. PLAGUE :

Although no case of Plague has occurred in Durban for 22 years, anti-plague sanitation is vigorously prosecuted as the best means of ensuring against the introduction of menace which always threatens either via the sea-gate of Port Natal or the grain and forage lines of supply from the hinterland.

Precautions in the Municipal area follow two lines of action, firstly, the protection of premises likely to harbour or attract rodents and secondly, an active programme of rodent destruction.

Under the former heading, progress has been made during the year, in obtaining authority for requiring all ground-floor shops, renovated or newly constructed, to be laid in concrete. Warehouses and stores used for foodstuffs, grain or forage were, of course, already controlled in this respect by the existing Rodent Infestation Regulations. Coupled with the powers exercisable in virtue of the Licensing Acts and Regulations, the scope of preventive control in respect of shops and stores, lodging and boarding houses, poultry-runs, stables, dairies, etc., leaves little to be desired. The greatest stress is being laid upon constructive anti-plague sanitation, such that it is not too much to claim that the older sections of the commercial and industrial Borough are being re-built 'rodent and plague-proof! No favourable report is issued in any application for license of trading premises unless the premises are rat-proof, not by means of flimsy wire-meshing, but by solid and permanent constructional features.

In addition, a permanent skilled staff carry on routine measures of rodent destruction by the latest cyanide-gassing methods wherever poison-baiting is not applicable.

This staff made 37,602 inspections during the year, laid 96,206 poison-baits, set 3,105 traps and destroyed an ascertained total of 15,280 rodents.

Total visits made by Rat-catchers.	37,602
Baits laid.	96,206
Traps set.	3,105
Rats known to have been destroyed :	
Private premises.	14,069
Magazine Barracks.	1,211
	15, 280

6. MALARIA :

The extent of the problem of malaria control throughout Greater Durban may be gauged from the following tabular summary of particulars respecting the area permanently affected:

Area :	65 1/5 sq. miles.
Area affected.	9399¼ acres (14.6 sq.mls)
No. of Properties affected.	1399
No. of Houses.	2686
No. of Occupants.	16769
Yds. of Ditches.	160120
Area of Swamps.	417⅜ acres.
No. of Wells.	1186.
Miles of River Banks.	48½
No. of Tanks.	1945
No. of Drums.	2319

Anopheles Costalis (Gambiae) bred in the Central Borough area from January until June. In other areas, breeding

went/

went on throughout the year, the period of maximum intensity being from February to May inclusive.

The period of maximum intensity of the disease was during March, April and May. The following table sets forth, for each month, the number of cases notified, the number of deaths recorded and the types of infection :

MONTH.	Notification All Races.		Deaths. All Races.		Classification.	
	Boro.	Impt.	Boro.	Impt.	Subtertian.	Benign-Tertian.
July.	5	-	11	1	2	3
August.	4	3	4	1	3	4
September.	4	-	6	1	2	2
October.	5	-	5	-	1	4
November.	3	3	3	-	-	6
December.	4	--	3	2	2	2
January.	8	4	5	1	8	4
February.	25	24	10	7	45	4
March.	221	129	35	10	253	97
April.	312	212	63	17	437	87
May.	381	178	66	20	478	81
June.	182	131	37	14	236	77
TOTAL :	1,154	684	248	74	1,467	371

The distribution of the cases and deaths are set forth in the following table :

YEAR	BOROUGH.					EX-BOROUGH.					GRAND TOTAL.
	E.	C.	N.	A.	TOTAL.	E.	C.	N.	A.	TOTAL	
1932-33	290	31	226	91	638	25	1	29	8	63	701
1933-34	342	76	573	163	1154	226	28	370	60	684	1838

Regional Distribution.

	E.	C.	N.	A.	TOTAL.
Old Borough.	180	25	231	46	482
South Coast Area.	18	9	28	14	69
Umhlatuzana.	9	1	6	3	19
Mayville.	10	5	34	13	62
Sydenham.	11	7	69	45	132
North Coast Area.	114	29	205	42	390
TOTALS:	342	76	573	163	1154

Malaria Deaths.

YEAR.	BOROUGH					EX-BOROUGH.					GRAND
	E.	C.	N.	A.	TOTAL.	E.	C.	N.	A.	TOTAL	TOTAL.
1932-33	22	4	65	23	114	6	1	28	5	40	154
1933-34	16	7	101	124	248	4	0	67	3	74	322

Regional Distribution.

	E.	C.	N.	A.	TOTAL.
Old Borough.	5	3	33	33	74
South Coast Area.	1	1	10	14	26
Umhlatuzana.	2	-	2	1	5
Mayville.	1	1	12	13	27
Sydenham.	1	-	21	32	54
North Coast Area.	6	2	23	31	62
TOTAL:	16	7	101	124	248

The disease was twice as prevalent as in the previous year and the mortality increased by over one-hundred per cent. This is to be regarded as a moderate incidence considering the circumstances of excessively heavy rainfall and high average temperature during the spring and early summer months. The conditions were ideal for free and widespread breeding of A. Costalis. As the season advanced, the prospects looked ominous. A. Costalis swarmed in every possible and potential breeding place. The following particulars set forth the variety of breeding-places favoured by A. Costalis as recorded during the year :

(a) Open/

(a) OPEN EXPOSED POOLS :	
No vegetation.	183
Formed by seepage.	445
Formed by Cattle.	24
In Streams - Beds.	54
(b) PERMANENT STREAMS.	148
(c) SEEPAGE POOLS VEGETATED	30
(d) OTHER CONDITIONS.	32

Towards the end of the summer, severe visitation of the shack settlements in Sea Cow Lake, Springfield and Riverside (Umgeni) areas compelled the engagement of a special staff of fumigators (9 European sprayers, 1 Lorry Driver). The following table indicates the amount of work done by this staff in the weekly spraying of dwellings:

No. spraying days.	45.
No. pumps used.	6.
No. houses sprayed.	3,016.
No. rooms sprayed.	11,348.
Gallons of Insecticide.	165.

Through the medium of Indian schools, a considerable quantity of quinine was distributed to indigent sufferers from malaria.

The staff engaged on Anti-Mosquito Sanitation and the nature of their duties are set out as follows :

STAFF :

(a) 1. Inspector (Cert. R.S.I.)
(b) 1. Asst. Inspector (Cert R.S.I.)
(c) 9. Patrolmen.
(d) 4. Asst. Patrolmen.
(e) 3. European Overseers.
(f) 1. Lorry Driver.
(g) 1. " " (temporary).)
(h) 2. European Scouts.) Relief Workers.
(i) 9. " Labourers (Spotters))
(j) 9. " Fumigators (temporary))
(k) 2. Indian Sirdars.
(l) 29 " labourers.
(m) 2. Native Indunas.
(n) 23 " labourers.

Duties/

DUTIES OF :

(a) & (b) Control and supervision.

(c & d) House to house inspections. Weekly surveys of swampy areas.

(e) Control of spraying and ditching operations. Bush clearing on privately-owned vacant lands.

(f & g) Distribution of larvacide. Transport of labour etc.

(h) Periodical visits to unoccupied house and vacant lands.

(i) Foci searchers.

(j) Fumigating (insecticide) barracks, houses etc.

(k.l.m.& n) Spraying (larvacide) and ditching. Bush clearing on privately-owned vacant lands. Reclamation of swampy areas on minor scale.

With the inclusion of an insecticidal spraying unit (fumigators) the anti-mosquito field staff has for the first time, been adequately manned and equipped. Unfortunately, the fumigators were obtained on an Excess Vote only. It is hoped, however, that their services will be retained for next season.

The laboratory research facilities initiated last year by Patrolman J. Grieve have developed into an exceedingly useful adjunct to the field work. Identification of species, investigation of infection rates and other epidemiological data, control and preparation of insecticides are now performed departmentally.

No fewer than 85,435 mosquito larvae were submitted for identification, as compared with 19,000 odd for the 1932-33 season. Of these 66,000 odd were anopheline larvae of which 20,211 were A. Gambiae as compared with 4,139 of the previous year.

986/

986 Gambia female imagines were also submitted for dissection during the year, of which 143 were found to be infected with malaria parasites :-

The sporozoite rate was 14.09%
while the oocyst rate was.... 12.59%

Of these 986 gambia imagines, 488 were derived from the 'adult' survey of the Sea Cow Lake and Springfield areas.

Last season (1932-33) gambia larvae were taken mainly from atypical breeding spots, while during the year under review, the larvae of this subspecies showed a tendency to return to their normal habitat. The majority (70%) however, still frequent isolated pools, both exposed and covered, in both permanent and occasional swamps. Other anopheline sub species favoured typical breeding places.

The observation of metamorphological data, commenced in January 1933, was continued throughout the year for the purpose of determining the frequency of anti-larval spraying. The following table sets forth the information gathered, which was of the greatest importance in securing efficiency with economy in spraying operations :

MONTH.	Rainfall.	Average Temperature.	Average Humidity.	Metamorphosis egg to imago.
July.	1.66 ins.	61.9°F	75.6%	17 to 19 days.
August.	.19 "	65.0	69.5	16 " 19 "
September.	1.71 "	67.1	77.03	14 " 17 "
October.	2.39 "	71.0	71.2	14 " 16 "
November.	5.095 "	72.47	78.96	12 " 15 "
December.	6.06 "	75.4	80.7	10 " 12 "
January.	8.03 "	75.73	81.0	9 " 11 "
February.	3.16 "	76.09	77.0	10 " 12 "
March.	2.96 "	75.53	79.0	11 " 14 "
April.	4.83 "	73.373	80.0	12 " 15 "
May.	2.505 "	68.981	75.0	14 " 16 "
June.	.3 "	64.127	77.0	15 " 18 "
SUMMARY :	38.89 ins.	70.6°F	77.0%	(Range) 9 to 19 days.

Blood smears taken and examined departmentally totalled 269. The resultant information added to that obtained from the Union Health Authorities, indicated that the incidence offfresh local infections from the haemamoebaedae in Durban for the year was approportioned thus :-

20% Plasmodium vivax. and
80% Plasmodium falciparum.

Numerous cases of "parasitic relapse" (relapse cases where the pyrogenic limit had not been reached) were observed.

The reported severe focal epidemics of typical fulminant autumnal types from the Sea Cow Lake and Springfield areas appeared to be closely related to the flooding which occurred approximately a month prior to the outbreaks. A detailed house-to-house survey for anopheline imagines was instituted, followed by identification and dissection of all gambia female imagines. Other indices and data were obtained but as these were rather scanty and the deducted values purely hypothetical, the sporozoite rate for each area was relied on for the purpose of directing control measures. House-to-house spraying with an insecticide specially prepared in the departmental laboratory at a very low cost, was undertaken with satisfactory results.

On several occasions prior to these local outbreaks, numbers of female gambia imagines had been captured in the vicinity, all of which specimens on dissection showed advanced ovarian development - which coupled with the fact that little or no rain had fallen, indicated aestivation. Now bearing in mind that aestivation was apparent, and that the Sea Cow Lake area is one of high, if not hyper-endemicity, the

sporozoite/

sporozoite rate of 14.09% cannot be considered exceptional.

Another point of not inconsiderable interest emerged in connection with the South Coast Area, which is one of high endemicity, favouring perennial breeding and producing regularly the largest A. gambia population in the whole Borough. However, exceptionally few fresh cases of malaria occurred during the season and no gambia female imagines were captured in dwellings. The only feasible explanation would appear to be that a deviation of feeding habit took place - i.e. substitution of zoophilism for androphilism.

The following table reflects correlation of rainfall, A. gambiae and fresh local infections for the period January - June 1934.

	January.	February.	March.	April.	May.	June.
Rainfall.	8.03 ins.	4.59 ins	2.96 ins	4.83ins	2.505 ins	.3 ins
Gambia : Foci.	103	189	170	183	161	97
Fresh Local infections.	7	15	99	149	108	63

Anti-Stegomyia measures continue to be prosecuted with success.

"Drums and Casks " continue to be the most important factor governing the development of mosquitoes within the Borough more especially in the incorporated areas where **many** of the occupiers of dwellings continue to store their drinking water in this type of receptacle.

The percentage figures in respect of actual development in "Tins and Bottles" are slightly higher than those submitted last year. A feature which has had an important bearing in connection with receptacles of this nature has been the indiscriminate dumping of milk bottles in hedges and on vacant lands throughout the Borough.

There is no improvement shown under the heading of "Other Conditions" which includes a large variety of vessels etc. capable of retaining water. A fair proportion of these conditions consist of discarded baths and roof guttering, which in the majority of cases have been dumped on vacant sites.

An increase of over 150% above last year's figures is shown under the heading of "Motor Tyres". The data collected in this connection indicates that approximately 75% of the tyres were found on private premises in the incorporated areas and a large proportion of the persons responsible were either Indians or Natives who had acquired motor vehicles for the purpose of engaging in taxi work.

Under the headings "Sagging" and "Obstructed Roof Gutterings" there is a decided improvement on last year's figures. This is due to propaganda work amongst occupiers and pressure being maintained on owners of houses by this Department.

Regarding "Sanitary Fittings", the decrease in the percentage figures in comparison with those of last year is due to the decrease in the number of vacant houses, as well as to the fact that dwellings have not remained unoccupied for very long periods, and to the work done by our "Scouts", who visit all vacant houses within the Borough at

frequent intervals.

"Trees & Plants" are ceasing to be of very much importance as foci for the development of mosquitoes. During the past year considerable activity has been maintained in the building trade and as a result, many fine old trees have been removed from building plots to make room for the erection of houses etc. All trees existing on the open spaces under the control of the Parks & Gardens Department have been examined and those found to contain hollows have been suitably treated so as to prevent mosquito-breeding.

The use of tanks, in the incorporated areas, for the storage of rain-water for domestic supplies continues to be a very serious source of nuisance from a mosquito aspect. During the year under review 2,504 such tanks were examined for mosquito-development and the results show that 18.25% were responsible for actual development and 51.6% as potential breeding places by reason of the absence of any protective measures against the ingress of mosquitoes.

Unoccupied houses and vacant lands throughout the Old Borough have been regularly examined by the Scouts. In this connection, 8,951 visits and re-visits were made and actual development was observed on 484 occasions, representing 5.4% of the total visits.

Owing to the lack of funds, our advertising campaign was not pushed forward to the same extent as last year. The public have, however, co-operated fairly well, 744 complaints being received and dealt with as compared with 634 for the previous year. An increase in the rainfall of 8.5 inches over last year and the constant flooding of the

Eastern Vlei, where extensive reclamation works interfere with natural storm-water drainage, have been responsible for greater amount of oil used in spraying operations.

During the year, a comprehensive survey of the Aedes group was undertaken in the Borough. At least ten subspecies were found to be omnipresent :

Sub-genus Stegomyia. Aedes argenteus (Poiret).

This, the commonest and most dangerous member of the genus, was found everywhere throughout the Borough, in all kinds of water-holding rubbish.

Aedes simpsoni (Theo).

Found mainly in plants (Bilbergia sp.) and cut bamboos.

Aedes pseudonigeria (Theo).

Found mainly in rot holes in trees.

Aedes vittatus (Theo).

Found mainly in rock pools and stream beds, with coarse sand bottoms.

Aedes lilii (Theo).

Found on one or two occasions in receptacles in streams.

Sub-genus Aedimorphus :

Aedes durbanensis (Theo).

Found in drains, and gulleys where the water is not too foul.

Aedes apicoannulatus (Theo).

Found in rot holes in trees.

Aedes quasiunivittatus.

Found frequently in rainwater pools with grassy edges.

Aedes albocephalus (Theo)

Found in grass, in swamps in all areas favouring perennial breeding.

Sub-genus Banksinella. Aedes lineatopennis (Lud).

Found only occasionally in partially vegetated pools in permanent swamps.

Aedes (s) argenteus (Poiret) a species primarily confined to the coastal belt, is making steady inroads into all our inland towns, following the main lines of communication. Its elimination is a health measure of primary importance and is only possible provided an educated and sympathetic public co-operate. Proper screening of rainwater tanks and the elimination of all kinds of water-holding rubbish will go far towards bettering the position. Unfortunately, Aedes argenteus like most species of mosquitoes, tends to depart from its usual habits when control becomes intensive and the normal range of habitat becomes restricted.

Aedes argenteus (Poiret)is a most persistent species and hibernates mainly in the egg stage. That the eggs are able to withstand prolonged periods of dessication is postulated by the types of breeding places selected; i.e. breeding spots that not only dry up quickly, but are subject to prolonged periods of drought. It is worthy of note that (1) in the viability of their eggs, (2) the resistence of the larvae to great ranges of water temperatures and (3) the adaptability of the adults to all types of breeding spots, this species (originally a sylvan breeder) evinces an extraordinary capacity for adaptation to environment.

In controlling this species, great importance attaches to the fact that oviposition is dependent upon proximity to blood supply, that is to say, this mosquito does not occur at any distance from domestic surroundings. The control of out-lying swamps and waterholes does not therefore appear to be a measure of importance in the prevention of Dengue.

7. WATER SUPPLY :

Throughout the year, the quality of the water system, as ascertained by weekly chemical and bacteriological analysis, has been consistently good. In quantity the supply has been ample for the requirements of lesser Durban, but it now becomes obvious that early provision should soon be made for an augmented supply in order to anticipate the rapidly expanding needs of the community. The Borough Water Engineer has already submitted a comprehensive report on his investigations for a new source of supply.

The high standards of purity are indicated by the sub-joined analyses, taken at random :-

(a) Chemical :

Colour.	Good.	Sediment.	Nil.
Turbidity.	Nil.	Re-action.	0.90 Alk.

Analysis/

ANALYSIS.

(Result expressed in parts per 100,000)

Total Solids	11.36
Loss on Ignition	2.88
Chlorine	2.49
Nitrates & Nitrites	Nil.
Saline Ammonia	0.002
Albumoid Ammonia	0.008
Total Hardness	4.86
Permanent Hardness 1	2.99
Iron	Trace.
Poisonous Metals	Nil.

(b) Bacteriological :

	B. Coli. Present in.	B. Coli. Absent in.
B ulwer Park	100.0 c.c.	80.0 c.c.
Medwood Gardens	100.0 c.c.	80.0 c.c.
Mitchell Park	-	100.0 c.c.
Umbilo	100.0 c.c.	80.0 c.c.

WATER SUPPLY.

(By Courtesy of the Borough Water Engineer).

(i) SOURCE : UMLAAS RIVER :

The catchment area draining to the storage reservoir at Camperdown is 172 square miles in extent. An additional catchment of 138 square miles drains to the new storage reservoir at Shongwnei. A further area of 33 square miles drains to the Intake, making an aggregate of 345 square miles. The total acreage within the catchment area owned by the Corporation is 10,527.

(ii) POSSIBILITIES OF POLLUTION IN CATCHMENT AREA :

The supply in the river and tributaries from such an extensive catchment area is of course subject to pollution, but almost all the human habitations are situated at such distances from streams as renders them innocuous. The Corporation is empowered by the Durban Waterworks Consolidation Act No. 24 of 1921 to take drastic measures if necessary to prevent serious contamination.

(iii)/

(iii) STORAGE :

The total reservoir capacity is made up as follows :

Storage Reservoirs.

	Original Capacity Million Gallons.	Present Capacity Million Gallons
Shongweni	2,600	2,600
Camperdown	604	150
Clear Water - Umlaas	100	100
	3,304	2,877

SERVICE RESERVOIRS.

Congella	1.	3,000,000)			
	2.	3,000,000)	In reserve.		
	3.	650,000)			
	4.	650,000)			
				7,300,000	gallons
Botanic Gardens				3,000,000	"
South Ridge				3,000,000	"
Stella				2,000,000	"
North Ridge				2,000,000	"
Ridge End.				2,000,000	"
Northdene	1.	500,000 gals.			
	2.	750,000 "		1,250,000	"
Florida Road				650,000	"
St. Thomas Tank.				300,000	"
Botanic Gardens Tank				100,000	"
Clairwood Tank.				30,000	"
				21,630,000	Gallons

(iv) PURIFICATION :

When necessary the raw water is treated with Alumina Sulphate for the purpose of sedimentation before Filtration.

Slow sand filters are in operation at both the Umlaas and Coedmore Works, and the Shongwnei Works include the rapid gravity type.

In/

In all cases the effluent from the Filters is sterilised by treatment with liquid chlorine on the most modern principles and with completely effective results.

(v) The average daily consumption is in the vicinity of 10,000,000 gallons and the actual capacity of the existing works is approximately 15,000,000 gallons per day.

(vi) BACTERIOLOGICAL EXAMINATIONS :

Regular bacteriological and chemical examinations were made in the laboratory situated at Northdene Filters, and weekly tests are made at the Government Laboratory in Durban, yielding results comparable with those of any other water supply in the world. The Durban standard of negative Bacillus Coli in 100 c.c. is the highest standard sought anywhere.

WATER SUPPLY :

The number of private water supplies investigated and approved during the year was 1,187; and the number condemned 293.

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8. SANITARY SERVICES :

Conservancy: The stercus removal service dealt with 209 pails in the Central Area, 746 in Umhlatuzana, while in Mayville 265 pails are handled in the service supplied by outside contract.

(i) Night Soil :

Number of pails receiving attention :

Old Borough	209
Umhlatuzana	746
Mayville (by private contractor).	265

(ii) Refuse : Number of Carts in use :

Rubbish carts	38
Motor freighters. ...	12
Street cleaning carts...	17
Carts for depositing sand on tips	3
Tank carts for removal of night-soil.)	1
Lorries ... ...)	2
Stationary carts and vans	4

Materials removed : (No. of loads).

Rubbish	78,483
Street-sweepings... ...	21,372
Manure	338

Premises served by private contractors :

Mayville	368.
Sydenham.	210

Dead Animals disposed of at Burial Ground :

Horses	77
Mules	27
Cows	15
Sheep	4
Zebras	2
Donkeys	7
TOTAL :	132

(iii) FLY PREVENTION :

Fly poison mixture used (gals)	42,996.
Fly gum used (lbs).	1,623.

No extension of either sanitary services was made during the year, owing to lack of funds.

9. MEAT SUPPLIES :

The usual routine inspections of Butcher shops, etc were carried out. A total of 3,270 visits being made throughout the year.

10. MILK SUPPLIES :

Applications for licence or registration in respect of eighty-four dairies were received during the year, as compared with one hundred last year, viz :-

Dairies (Raw Milk)	79
Milk Depots (Pasteurised Milk).	5
TOTAL:	84

The decrease in applications compared with last year's record figure, is accounted for by the fact that many milk producers, hitherto operating in the outer areas, who applied to the local authority for registration following incorporation, having realised that the standard of dairy hygiene required by the Durban Milk Bye-laws was too exacting, or beyond their financial resources, and consequently gave up the idea of submitting further applications.

In support of this contention, it will suffice to say that during the year, no fewer than forty nine (49) dairies, the product of which was disposed of mostly in the incorporated areas, have ceased operations.

While a number of the milk vendors concerned, closed down voluntarily, on being informed of the Borough requirements, it was in the majority of cases only after steady pressure exercised by this Department, followed frequently by prosecution, that the businesses were eventually discontinued.

The period under review, has been one of great activity for the Department in regard to the cleaning-up process rendered necessary by the many unsatisfactory and unhygienic conditions under which dairying has been conducted in the outer areas.

The ability to acquire a few cows seems, in the opinion of a great many of these milk vendors, to be the only requisite for a dairy, and this, with the absence of a reasonable standard of hygiene and sanitation on the part of the former authorities, has undoubtedly encouraged many individuals of an undesirable type, to regard dairying as a business requiring the minimum of effort, initiative or intelligence.

This entire lack of appreciation of even the bare essentials of hygienic milk production, has thus greatly increased the difficulties of the Department, in their endeavours to secure a clean milk supply. The old established and primitive methods so common to this particular type of dairyman, seem to die hard, and any attempt to secure improvement is invariably viewed with suspicion, or regarded as unwarranted interference on the part of the local authority, designed with the object of depriving them of their livelihood.

Notwithstanding the many difficulties encountered, however, it is satisfactory to be able to report that considerable progress has been made and many major improvements effected during the year.

Of the forty-nine dairies already mentioned as having been closed down, seven were owned by Europeans and the remaining forty-two by Indians, the majority of which were most insanitary and structurally inferior.

Following the closing down of their premises eleven Indians formed three separate companies and by pooling their resources have thus been enable to erect three entirely new dairy premises in accordance with the requirements of the Borough's Milk Bye-laws.

The elimination of these forty-nine dairies of inferior type has, therefore, resulted in the re-establishment of three dairies built on approved lines.

Considerable trouble is still being experienced from the illicit Indian cowkeeper, that is, the individual who never makes any application for licence or registration on the plea that he does not conduct a dairy, but merely keeps a few cows for his own use, and at the same

same time frequently resorts to the practice of illictly vending milk, principally among his compatriots under circumstances which make detection and proof of sale somewhat difficult.

Despite these difficulties, with the assistance and co-operation of the District Sanitary Inspectors, a number of these unlicensed cowkeepers have been caught selling milk and successfully proceeded against in the Courts.

The problem, however, will never be satisfactorily overcome, until a definite ban is placed on the unrestricted keeping of cows, at other than registered dairy premises, in view of the fact that if the retention of cows is permitted, the temptation to dispose of the milk derived therefrom, will prove to be irrestible.

The following improvements have been effected at dairies applying for registration during the year :-

COWSHEDS :

Thirteen new brick built cowsheds have been erected, to replace structures that could not be approved by the Department.

The cowsheds at fourteen other dairies have been remodelled or reconstructed, and necessary adjustments made with a view of standardisation of dairy buildings, as far as circumstances permit.

MILKROOMS :New milkrooms of approved type have been erected at twenty-three dairies.

WASHROOMS :

Twenty-four dairies have been equipped with suitable washrooms for the cleansing of dairy utensils.

WATER SUPPLY :

Eight dairies have been linked up with the Dairy Corporation supply, thus ensuring that abundant supplies are available for all purposes.

This/

This improvement has only been achieved at somewhat considerable cost on the part of a number of the dairymen affected, having regard to the distance the service pipes had to be laid, in order to connect up with the existing Corporation water-mains.

A further five dairies, where the Corporation supply is not available, have considerably augmented supplies by the provisions of additional storage tanks.

STEAM STERILISING APPARATUS :

Twenty-three dairies have, during the year under review, installed approved facilities whereby dairy appliances and utensils can be subjected effectively to the treatment of live steam, the intelligent and regular use of which should contribute greatly to the production of clean milk.

MILK COOLERS :

Ordinary water operated cooling plant has been provided at three dairies, and a further five equipped with intensive cooling installations, four of which are augmented with cold room storage accommodation.

The latter is proving an advantage in clean milk production, which cannot be too strongly emphasised, as apart from its aid in retarding bacterial growth, dairies so equipped nowfind it possible to perform all milking during the hours of daylight, whereas formerly such operations were frequently conducted under difficulties in an atmosphere of gloom and semi-darkness.

SERVANTS' HOUSING :

Ten dairymen have constructed suitable accommodation for the housing of their dairy employees, in place of the dilapidated and insanitary shacks which formerly obtained.

SERVANTS' BATHING & SANITARY ACCOMMODATION :

Seventeen dairies have been provided with suitable bathroom and washing facilities for the use of their dairy employees and thirteen have erected sanitary conveniences, where none existed formerly.

MILK COMPETITION :

The Clean Milk Competition which lapsed last year, owing to no Show being held, was again resumed this year, under the aegis of the Durban & Coast Society of Agriculture and Industry.

The/

The entries for the Competition this year numbered ten, several of the former competitors having dropped out.

The marks awarded to the several competitors were tabulated and in the case of the winner and runner-up, were displayed on a poster exhibited at the Durban & District Dairyman's Association Stall during the recent Agricultural Show.

The Silver cup donated by the Durban Town Council and the diploma of the Agricultural Society was won by Mrs England - "Norfolk Dairy".

The runner-up was Mr. R.E. Carte of the "Durban North Dairy", who received the Agricultural Silver medal.

The special prize donated by Messrs Tomango Ltd. awarded to the dairy scoring the highest number of marks for dairy premises was won by Mr. J.L. Hendry, "Irvington Dairy".

DAIRIES, COWSHEDS, ETC :

594 Inspections of dairies and milk depots selling milk within the Borough (including Greater Durban) were made during the year.

No. of Milk Depots in Old Borough.	5
No. of approved Dairies & Cowsheds (within the boundaries of Greater Durban):	
European	53
Indian.	15
No. of approved Dairies & Cowsheds (outwith the boundaries of Greater Durban) but licensed to sell milk within the Borough :	
European.	2
Indian.	-

The/

The number of approved European dairies situate within the boundaries of Greater Durban shows an increase of five compared with the same period last year.

The number of approved Indian dairies has, however, remained stationary.

Departmental Statistics prepared in March last, computed the average Milk Consumption of the Borough (included Greater Durban) to be :

Pasteurised Milk.	4,560	gallons per day.
Raw Milk.	2,693	" " "
TOTAL :	7,253	gallons per day.

The improvements effected at the instance of the Health Department during the year are summarised as below :

COWSHEDS :

Within the Borough (Greater Durban) erected to replace existing buildings	13
Within the Borough (Greater Durban) constructed	14
Within the Borough (Greater Durban) repairs to walls, floors, etc	9
Unsatisfactory groom of cows (warnings given)	15

MILKROOMS :

(a) Erected	23
(b) Fly screened	18

WASHROOMS FOR WASHING DAIRY UTENSILS :

Number erected	24

WATER-SUPPLY :

Dairies connected to Durban Corporation Supply	8
Supply otherwise improved	5

Steam/

STEAM STERILISING EQUIPMENT :

Installed 23

STERILISERS NOT REGULARLY USED :

Warnings given 9

MILK COOLING EQUIPMENT :

Intensive Milk cooling plant installed. 5
Water operated coolers................. 3

BATHING FACILITIES PROVIDED : 17

SANITARY CONVENIENCE.ERECTED : 13

SERVANTS' QUARTERS ERECTED : 10

DAIRY PREMISES CLOSED. 49

11. OTHER FOOD SUPPLIES :

FOOD & DRUGS ANALYSES.

During the year the undermentioned food samples were submitted for analysis, viz :-

Description.	Number.	Genuine.	Deficient in Auality or Adulterated.
Milk	264	251	13
Ice Cream	6	1	5
Fresh Cream	6	6	-
Sausages	4	3	1
Dripping	1	1	-
Mince	2	2	-
TOTAL :	283	264	19

Legal proceedings were instituted in respect of nine Milk samples found on analysis to be deficient in quality or adulterated, a conviction being secured in each case.

In/

In the remaining four instances the deficiency was slight and no further proceedings were taken other than the issue of warnings to the dairymen concerned to improve the quality of their product.

Subsequent samples were satisfactory.

Five of the ice cream samples showed a serious deficiency in Milk Fat and successful legal proceedings were taken in each instance against the vendors.

One sample of sausages proved an analysis to contain preservative in excess of the prescribed regulation.

The circumstances were not considered to warrant any further action by the Department other than the issue of an official warning to the vendor.

The other samples procured were on analysis found to be genuine.

In addition to the above, 250 Milk Samples were wubmitted during the period, for bacteriological examination, and appropriate action taken where necessary.

The average composition of the fresh milk samples including those under standard was :-

Milk Fat.	Solids-not-Fat.	Total Solids.
3.462%	8.738%	12.2%

The composition of Milk prescribed by the Food and Drugs Act is :-

Milk Fat.	Solids-not-Fat.	Total Solids.
3%	8.5%	11.5%

The quality of the Borough Milk Supply has therefore been well maintained.

Investigation/

INVESTIGATION CONDUCTED IN THE DEPARTMENTAL LABORATORY ON A "BLOWN" TIN OF SALMON.

Gases formed :- Hydrogen mainly with a comparatively high percentage of CO_2, and traces of N and H_2S.
Hydrogen-ion concentration 8.2

The interior of the container was blackened, the coating of tin being almost completely dissolved off the metal, traces of tin were present throughout the contents, and a composite sample, under quantitative analysis, yielded .055% stannic oxide or 3.35 grains of tin per lb.

From the above analysis alone, it will be appreciated that the sample was rightly condemned; further experiments were conducted however, and the contents of the tin were left exposed to the air, at room temperature for a period of 12 hours, when it was examined again with the following results :-

Gases evolved : CO_2 mainly with traces of H, H_2S and indole Micro-organisms present :- several species of micro-cocci and bacilli were present, with Proteus vulgaris in the majority - representatives of neither the salmonella group, nor the botulism group were observed to be present.

Tests were next applied for the presence of products of putrefaction when it was found that Tyrosine ($C_9H_{11}NO_3$) or phydroxyphenyl-a-amidopropionic acid, an amido acid of the aromatic series was present with leucine ($C_6H_{13}NO_2$) or amido-caproic acid, both being common constituents of putrefactive products.

The remainder of the contents of the tin was again examined 12 hours later, when a disagreeable fishy ammoniacal

odour/

odour was noticeable; extraction of ptomaines was attempted, resulting in the isolation of (a) Diethylamine ($NH\ C_2H_5)_2$, a monamine of the fatty acid series, and (b) Neurine ($C_5H_{14}NO$) a neurinic base produced by the action of putrefactive organisms on amine-acids, and one of the important ptomaines.

12. MATERNITY & CHILD WELFARE :

Several important developments took place during the year.

An additional Medical Officer (Dr. Mc Alper) was appointed to assist Dr. K. McNeill, enabling part-time medical assistance to be discontinued.

A Non-European Clinic was opened in Brook Street, conveniently situated for Indian and Native residents in the Central Area.

Sister Shirtliff was appointed Supervisor of Health Visiting Staff and Sister France, Midwifery Supervisor.

The work of supervising midwifery practice is developing satisfactorily. Special attention is paid to the practice of uncertificated midwives admitted to the formal List of Practising Midwives. Each midwife is required to conduct a case under the observation of the Supervisor. If special instruction is required, this is given. Little difficulty has been experienced in supervising European Midwifery practice, but in the case of Indians, who were with one exception untrained, special arrangements had to be made for tuition.

A cinematograph film (16 mins) demonstrating all the phases of normal labour and its management, the care of the new-born infant and management of the feverperium was produced departmentally and used in connection with a tutorial series consisting of twelve lectures and thirty demonstrations. Finally, the pupil is watched during a 'test' case and if satisfactory, the midwife is allowed to purchase a midwifery bag.prepared departmentally and permitted to practise.

When an indigent case, booked through the Clinic, is attended, a fee of £1 is paid out of the Borough Fund.

The greatest interest in these tutorial series has been taken by Indian Midwives.

Demonstration : At the European Clinic improvements have been made also.

A Demonstration Room has been fitted out where each mother who attends is given a practical demonstration on any point it is considered she needs more instruction. Here also a little practical lecture of ten minutes duration is given each day by one of the Health Visitors.

Numbers Attending the Clinics : Up to the end of July 1933, the Municipality was only partly responsible for the Indian Child Welfare work; the Indian Child Welfare Society did the rest and while this arrangement held, the Indian School children were allowed to attend the Municipal Clinic.

Since the Municipality took over the control of all non-European Child Welfare, the Indian Child Welfare Society has had to make other arrangements for their school children.

This fact accounts for the decrease in numbers of Asiatics attending the Clinic for this year.

Infant Mortality Rate : The European Infant Mortality rate for Greater Durban is 54.74. This is considerably more than what it used to be for the old borough, but is much more difficult to supervise the population in these scattered areas. Although it is high, it is considerably less than that for England and Wales where much Child Welfare has been done for many years and where the last recorded rate was 60.3.

Maternal Mortality Rate : The European Maternal Mortality rate of 2.15 is low. There were two deaths, both were from Puerperal Sepsis.

Toddlers : The most difficult part of the work to deal with is that of the toddlers.

Mothers attending with their babies pay very little attention to what is said to them about their toddlers unless they are sick.

It is to be hoped before long a Nursery School may be started where toddlers can be properly trained and cared for and where mothers can get practical instruction as to how this should be done.

It is found that in all branches of the work, the more practical the instruction can be made, the better are the results.

Brook Street & Old Court House Centres - Attendance.

	European.	Coloured.	Native.	Asiatic
Total Medical Sessions.	427	63	64	101
Total Ante-natal sessions.	101	63	78	100
Total attendance at Clinic.	19807	4222	3133	6092
New cases out of above number.	1708	488	926	1068
No. of infants under 1 year attending Clinic.	814	181	306	345

	European.	Coloured.	Native.	Asiatic.
(Continued).				
Total attendance of infants under 1 year.	6,590	1,123	972	1,630
No. of Expectant Mothers attending Clinic.	430	148	151	153
Total attendance of Expectant Mothers.	1,132	402	273	312
No. of cases receiving dried food at reduced or cost price	Child Welfare Society	2	10	26
No. of cases receiving dried food free.	97	16	7	40
Amount of dried food sold.	C.W.S. 2 lbs	63½ lbs	87lbs.	286 lbs
Amount of food given free.	2,025½ "	176½ "	22 "	692½ "

Cases Referred to :	European & Coloured.	Native.	Asiatic.
Doctors.	2	1	-
Hospital.	388	62	92
Societies - Child Welfare.	10	-	-

Passed for Day Nursery : 103.

Maternal Mortality :

Number of deaths from causes due to childbirth :

Durban : European 2.
Coloured 2.

Death Rate :
Durban European 2.25
Coloured 10.15

Maternal Deaths attended by :

Midwife throughout		Doctor.		Both.		Nursing Home or Hospital		Total for 1933/34.	
Euro.	Col.	Euro.	Col.	Euro.	Col.	Euro.	Col.	Euro.	Col.
-	-	-	-	1	1	1	1	2	2

Causes/

Causes of Maternal Deaths :

Puerperal Septicaemia.	
European.	Coloured.
2	2

Health Visitors' Work :

Infants under 1 year.	European.	Coloured.	Native.	Asiatic.
First Visits - Feeding :				
Breast.	827	97	26	319
Mixed.	120	19	7	20
Artificial.	102	22	20	39
TOTAL :	1,049	138	53	378
Re-Visits - Feeding :				
Breast.	610	20	4	101
Mixed.	541	28	14	70
Artificial.	673	36	26	70
TOTAL :	1,824	84	44	241
Older Children				
First Visits.	172	30	3	62
Re-visits.	3,621	281	10	490
TOTAL :	3,793	311	13	552

Other Visits :

ill rths.	Infant Deaths.	Expt. Mothers.	Maternal Deaths.	Puerperal Fever	Opth Neon.	Contacts.	Insp. of Lav.	Reports to San.Of.	Wasted Visits.
35	51	297	3	1	8	8	26	2	1,545
1	7	10	1	2	-	-	-	-	218
1	2	9	-	2	-	-	-	-	49
5	11	74	1	3	1	1	-	-	231
2	71	390	5	8	9	9	26	2	2,043

First Visits - Infants.	1,618
Re-visits - do	2,193
Older Children.	4,497
Other visits.	2,615
TOTAL VISITS :	10,923

Other Visits Continued :

	European.	Coloured.	Native.	Asiatic.
TotalNo. of Infants under one year visited.	1,162	252	42	427
Total No. of Expectant Mothers visited.	173	29	4	51
Ante-Natal Work :				
No.of Expectant Mothers attending Clinic.	430	148	151	153
Total No.of attendances.	1,132	402	273	312
No.of above cases attended by Municipal Midwives.	90	55	5	92
No. of above cases referred to Addington Hospital for confinement.	218	71	50	10

Municipal Midwives:

	European.	Coloured.	Native.	Asiatic.
Total No. of cases for year.	90	55	5	92
Total No.of Ante-natal visits.	154	123	43	146
No. of Premature Births born alive.	4	1	-	-

Europeans :
1 at $7\frac{1}{2}$ months - Alive.
2 at 8 months - one lived 10 hours.
1 at $8\frac{1}{2}$ months - Alive.
Coloured :
1 at $7\frac{1}{2}$ months - Alive.

Still births.	5	1	-	3

Europeans :
4 Full term.
1 at 7 months.
Coloured:
3 Full term.

Municipal Midwives (Contd).

	European.	Coloured.	Native.	Asiatic.
Maternal deaths.	-	-	-	2
Emergency Cases.	9	-	-	-
Abortions.	6	-	-	-

Table showing Illegitimate Births occurring among Residents in Durban and Greater Durban.

	European.	Coloured.	Native.	Asiatic.
Durban.	31	40	174	1
Greenwood Park.	2	4	14	-
Sydenham.	-	9	53	-
Mayville.	3	8	59	-
Umhlatuzana.	2	-	2	-
South Coast Junction.	4	6	13	1
TOTAL :	42	67	315	2

Infant Deaths from Enteritis - Feeding :

Dried Milk.	Nestles & Nutrine.	Cow's Milk & Nutrine.	Six Different. Feeds.	Total.
1	2	1	1	5

European Infantile Mortality :

	Male.	Female.	Total.
Infantile Deaths during 1933-34.	38	33	71
Registered Births.	638	659	1,297

This equals 54.74 deaths per 1,000 births, and represents the "INFANTILE MORTALITY FIGURE" for GREATER DURBAN.

Supervision of Midwives - Present Position :

Trained European Midwives practising	69
Trained European Midwives who have ceased to practise in Durban.	62
Untrained European Midwives practising.........	16
Untrained European Midwives who have now given up practising or who cannot be found........	3
European women doing midwifery who did not apply to be put on the List and have been warned not to practise	7
European midwives whose names have been removed from the List	2
Trained Coloured midwives practising	3
Untrained Coloured midwives practising........	4
Coloured women who are no longer practising....	2
Trained Indian midwives practising............	2
Untrained Indian midwives known to be practising (of these 51 have attended the course of lectures and practical work arranged for them at the non-European Clinic).	72
Visits to European and Indian midwives' homes.	253

Lectures and demonstrations to Indian midwives, including showing of Midwifery Film have been given twice weekly since the beginning of the year.

Examinations given to Indian Midwives attending the Classes.

Confinement cases attended with Indian Midwives.

Examination of Entrants to Service :

Twenty-five new entrants to the Municipal Service were medically examined.

13. LEGAL :

PROSECUTIONS.

Law or Bye-law relating to	Cases.	Con-vtns.	Dis-missed	Fines.	Remarks.
Sale/Delivery of Milk.	42	40	2	£84.0.0.	
Adult. of Milk & other foodstuffs.	15	15	-	30.10.0.	Of which £2. Suspended.
Manufacture, Storage & Sale of Food.	16	15	1	34.10.0.	
Sale of unsound foodstuffs.	1	1	-	5. 0.0.	
House Drainage.	4	4	-	9. 5.0.	Of which £3. suspended.
Poultry.	1	1	-	5.0.	Suspended
Mosquito Prevention.	23	23	-	45.15.0.	Of which £7. suspended.
Rodent Harbourage.	2	2	-	4. 0. 0.	
Nuisances - General.	7	6	1	9.10. 0.	
Collection/Storage of Refuse.	1	1	-	2. 0. 0.	
Clearing of Vacant Land.	1	1	-	1. 0. 0.	
Storage of Foodstuffs in Sleeping Apartments.	5	5	-	14. 0. 0.	
Illegal Housing.	2	2	-	3. 0. 0.	
TOTAL :	120	116	4	£242.15. 0.	Of which £12.5.0. suspended.

14. OTHER MATTERS OF HEALTH & SANITATION :

Sanitary Supervision.

During the year 1859 complaints were received and investigated - these included 278 complaints regarding the prevalence of rats and 744 intimations from householders troubled by mosquitoes.

9012/

9012 Verbal and 8524 written notices were issued.

Sanitary reports on applications for trading licence numbered 8301.

Inspections in connection with the fumigation of premises by Cyanide totalled 729.

Advisory reports to other Municipal Departments numbered 2,643.

The following tables show the statistical records of work done by the District Health Inspectors.

Inspection of :

Hotels, boarding & lodging houses.	3,024.
Restaurants, Eating Houses & Tea rooms.	4,370.
Bakeries.	278.
Butcheries.	3,270.
Dairies.	595.
Laundries.	1,487.
Markets.	450.
Offensive Trades.	664.
General.	55,489.
	69,627.

Night Inspections :

Hotels, Boarding & Lodging Houses.	9.
Restaurants, Eating Houses & Tearooms.	55.
Bakeries.	21.
Butcheries.	100.
Dairies & Milk Depots.	1.
Laundries.	31.
Markets.	1.
Offensive Trades.	5.
General.	125.
	69,975.

IMPROVEMENTS EFFECTED AT INSTANCE OF DEPARTMENT :

General Improvements to premises etc.

1. Internal conditions - premises cleaned and renovated	894
2. Lighting & ventilation improved/provided......	149
3. Roofs renewed/repaired..............................	127
4. Roof gutters and down-pipes renewed/repaired..	439
5. Defective walls repaired	190
Defective floors renewed/repaired.............	265

6. Wood floors replaced by concrete	69
7. Sundry repairs and improvements to premises..........	660

Foodstuffs :

8. Measures to protect foodstuffs	373
9. Proper cooking facilities provided	13

Housing (General.) :

10. Illegal housing of Natives discontinued	198
11. Overcrowding discontinued	18
12. Use of unauthorised structures as sleeping structures discontinued	142

Sanitary Conveniences, washing facilities, drainage etc.

13. European water closets installed	29
14. Native water-closets installed	52
15. Water-closets - defective fittings renewed/repaired..	457
16. Privies - wood floors replaced by concrete	147
[illegible] - defective & unsatisfactory pails removed/ [illegible] repaired...	192
17. " defective fittings renewed/repaired........	172
Premises connected to public sewer	8
18. Defective drains, fittings, etc. renewed/repaired ...	837
19. French drains provided	25
20. French drains - defects remedied	135
21. Discharge of waste water into street - discontinued..	157
22. Choked drains - referred to Borough Engineer.........	135
23. Premises - yards, water-closets, etc. cleaned........	2705
24. Yards paved/drained	38
25. Yard paving repaired	68
26. Wash-up sinks provided	224
27. Tiling of walls at rear of wash-up sinks.............	271
29. Corporation water connected to premises..............	149
30. Defective water service repaired	121

Sundry Nuisances, etc :

31. Anti-rodent measures	573
32. Anti-Mosquito "	3796
33. Fly and other nuisances abated	657
34. Deposits of refuse in unauthorised places - removed..	366
35. Refuse/Manure receptacles provided/repaired..........	522
36. Eradication of bugs	116
37. Keeping poultry in contravention of law - discontinued	180
38. Keeping of animals so as to be a nuisance - " .	31
39. Vacant lands cleared of undergrowth	637
40. Smoke nuisances abated	15
Illegal use of balconies discontinued	3

Erections (General).

New trading premises erected	15
New laundries erected	5
New wash-houses erected	6
New Native quarters erected	23

ERADICATION OF TUBERCULOSIS IN DAIRY CATTLE :

Towards the end of last year, the negotiations between the Secretary of Agriculture and the Town Council with reference to resumption of the Tuberculosis Eradication campaign reached a position of stalemate.

The Department of Agriculture took the view that a certain number of dairies (12) comprising a certain number of animals (400) would require to be included in any programme for resuming the campaign on the existing basis.

This was not an unreasonable stipulation to make in view of the fact that the Government naturally wished to have a clear idea of its financial commitments beforehand.

The attempt to induce a sufficient number of dairies to subscribe, however, fell through, by reason of the general feeling of the dairying industry that the time had come for a radical departure from the plan of campaign as hitherto prosecuted.

This point of view is supported by an examination of the facts of the situation as they appear in the perspective of some three years' experience. Circumstances which exert a dominating influence on policy have materially altered since the inception of the campaign.

It is recognized on all sides that conditions were never more favourable than at present for the promotion of a successful scheme of the kind. Dairy hygiene and sanitation, the facilities for routine supervision of dairy herds, for the isolation of reactors, for the testing of additions to herds, for bacteriological control of

milk-supplies, etc., have, since the inception of the scheme and the promulgation of the new Milk By-laws, reached a pitch of efficiency hitherto unattained.

The Town Council has, both in the letter and spirit, implemented its share of the original undertaking, which was briefly, the creation of the material facilities without which no scheme of the kind could expect to operate successfully.

The dairymen, on their part, have, with very few exceptions, subscribed in a most commendable spirit, to the exacting requirements of the new milk by-laws and to the drastic implications of the testing programme as originally carried out by the Department of Agriculture.

The Government, on its part, has exceeded its original financial commitments in regard to the scheme, which were based, so far as compensation is concerned, on a percentage of reactors far below that which emerged as a result of the preliminary round of testing.

It is clear, however, from the experience already gained, that further prosecution of eradicative measures based upon Tuberculin-Testing, must proceed on lines differing from those originally practised.

The essential difference, it is suggested, refers to the disposal of reactors, i.e. animals giving a positive reaction to the Tuberculin Test. In the original scheme, such animals were destroyed out of hand. The capital loss and interference with dairy economics and herd-management occasioned by the mass destruction of profitable animals are factors which render the method definitely inacceptable at this stage.

On the principle that it is sound practice to recognize your danger and endeavour to control it, it becomes possible, under existing circumstances, to advocate that reactors - apart from those showing definite clinical signs of disease - should be isolated from non-reactors, retained under the most careful veterinary and bacteriological scrutiny until (1) the termination of the current lactation period or (2) until (a) clinical evidence of disease or (b) valid bacteriological evidence of milk-infection is demonstrable.

Such a system of course, postulates the ability of the controlling authority to carry out the necessary clinical and biological supervision of reactors. The Durban Town Council possess the necessary facilities for maintaining adequate clinical supervision and has now under consideration the extension of its laboratory service sufficient to undertake the routine sampling of milk from individual reactors.

Incidentally, the sampling of milk for T.B. as hitherto performed has been merely perfunctory by reason of its limitation to two samples per week taken at random from the mixed milk of, at the most, 4 or 5 cows out of total number of animals comprised in the sixty-five dairy herds supplying raw milk to the Borough. Means will shortly be available, however, for the examination departmentally of an unrestricted number of samples at at fractional cost.

It may be accepted that the public health would be adequately safeguarded by such a method of controlling the milk-supply as is indicated in the foregoing.

The repercussions of the suggested alteration in policy on the purely veterinary and economic aspects

of/

of the question properly form a basis for discussion and negotiation between the Department of Agriculture and the dairy industry. The following propositions are however, tentatively advanced as representing the framework of a scheme for the resumption of Tuberculin-testing as an adjunct to the campaign for eradicating Tuberculosis from local dairy herds.

ERADICATION OF BOVINE TUBERCULOSIS DURBAN DAIRY (RAW MILK) HERDS.

PRESENT SCHEME

1. Routine veterinary inspection of herds.
2. Slaughter of all clinical cases.
3. Routine sampling of milk for T.B. on restricted scale.
4. Tuberculin-testing of all replacements.

PROPOSED SCHEME.

1. Routine veterinary inspection of herds.
2. Slaughter of clinical cases.
3. Preliminary Tuberculin-testing of all herds, followed by efficient separation of reactors and non-reactors.
4. Re-testing of non-reactors at six-monthly intervals over a period of Five Years; separation of reactors.
5. Testing of all replacements.
6. Regular and frequent examination for T.B. of samples of milk from individual reactors.
7. Slaughter - without compensation - of all reactors secreting infected milk.
8. The scheme shall be confined to :
    (1) Dairies equipped with the necessary facilities for maintaining efficient separation of reactors from non-reactors.
    and(2) Dairies other than above, from which reactors are eliminated forthwith on recognition.

9. A special Register shall be kept by the M.O.H. of all dairymen whose herds are eligible for inclusion in the scheme. Application for registration must be accompanied by a certificate of approval issued by the M.O.H. Dairymen listed on the special register shall be entitled to advertize their milk as :

   (1) Certified Milk - if all reactors are eliminated forthwith on recognition or if the herd consists of non-reactors.

   (2) Grade A - in circumstances other than those detailed in (1).

10. At the end of a period of Five Years after the resumption of Tuberculin-Testing, the milk from dairies other than those represented on the special register aforesaid, shall be pasteurized.

11. The force and effect of By-laws, where applicable, shall be given to the requirements detailed in the foregoing.

12. Compensation for animals destroyed shall be arranged by negotiation between the Government and interests concerned, but not, in any case, payable in respect of reactors retained 'in milk' and subsequently discovered to be clinically recognizable cases or to be secreting infected milk.

13. The Town Council shall maintain its existing facilities for the control of dairy hygiene and sanitation, routine clinical inspection, testing of replacements and routine Tuberculin-testing and shall further, suitably supplement its facilities for the bacteriological and biological testing of milk-samples.

The advantages to be claimed for the suggested scheme are the following :

1. The adoption of a Five Year Plan for resuming active measures of Tuberculosis eradication in a manner conformable with the special circumstances obtaining locally and such that the minimum immediate loss is occasioned to dairymen involving a minimum disturbance of herd-management and dairy economics.

2. Assurance that the public health benefits accruing from the reduction of Bovine Tuberculosis already achieved at very considerable loss to the dairy industry, shall not be discounted by a gradual lapse into the 'status quo ante'.

3. Protection of the high-class dairyman from the unfair competition of indifferently equipped and badly-managed dairies whose product is not of a quality to commend the increased consumption of milk by a public which is rapidly becoming a discerning public.

4. The assurance required by public health authorities, medical practitioners and other agencies to use their influence in increasing the public demand for milk as a safe, palatable and nutritious foodstuff.

RESEARCH :

In addition to Entomological work already described in connection with mosquito control, 2,522 specimens of insects other than mosquitoes were submitted for identification during the year. Investigations were carried out and control measures recommended in every case. Two methods of biological control for the red-wing locust (Nomodacris spetemfasciata Serv.) were investigated, but owing to an insufficient supply of locusts, the investigation had to be suspended.

Numbers of rodents were submitted for examination, throughout the year, and 531 bacteriological investigations were carried out, while chemical and biochemical investigations numbered 496.

15. STAFF :

Administration :

1 Medical Officer of Health.	Dr. G.H. Gunn, M.D.Ch.B.D.P.H.
1 Assistant M.O. Health.	Dr. G.D.English. M.B. Ch.B. D.P.H. D.T.M.

1 Chief Clerk, 6 Clerks, 5 Typistes, 4 Juniors, 2 Messengers.

Sick Leave Control :

1 Assistant Medical Officer.	Dr. D.H.Hooper, M.B. Ch.B(Edin).

Infectious Diseases Hospital :

1 Matron.	Miss E.M. Ewels.
18 Sisters & Staff Nurses.	
10 Temporary Nurses.	
1 Cook-housekeeper.	
1 Seamstress.	
1 Typiste.	

Infectious Diseases & T.B. :

1 Infectious Diseases Inspr.	Mr. C.C.de Lucey. Cert. R.S.I.

Dairy Section :

1 Veterinary Officer.	Lt.Col. F.W. Harber. M.R.C.V.S.
1 Dairies Inspector.	Mr. A. Michie. Cert. R.S.I.

Maternity & Child Welfare :

1 Medical Officer i/c	Dr. K.McNeill. M.B.Ch.B. D.P.H.
1 Asst.Medical Officer.	Dr. M.Alper. M.B.Ch.B. B.A.
3 Midwives.	
7 Health Visitors.	
3 Typistes, 2 Assistants.	

Inspectorial :

1 Chief Sanitary Inspector.	Mr.R. Walker. Cert. R.S.I.
19 Assistant Inspectors.	

Anti-Mosquito Sanitation :

1 Inspector in Charge.	Mr. J.W.McGreavey. Cert. R.S.I
1 Asst. Inspector.	

1 Clerk, 8 Patrolmen, 4 Asst. Patrolmen 8 Temporary Asst. Patrolmen, 3 Overseers, 1 Lorry Driver, 11 European Relief Workers.
2 Indian Scouts, 2 Native Indunas & 52 Non-European Labourers.

Anti-Plague :

1 Rodent Overseer.
6 Ratcatchers.

Conservancy & Cleansing :

1 Chief Overseer.
4 Overseers.
14 Lorry Drivers.
Indians
1 Tinsmith, 12 Sirdars, 390 Labourers.

Public Conveniences :

11 European Attendants.
9 Indian Cleaners.

Barracks :

1 Caretaker, 1 European Messenger.
4 Indian Sirdars and 20 labourers.

Cemeteries :

3 European Caretakers & Curators,
1 European Messenger.
1 Indian Sirdar and 22 Labourers.

REPORT "B".

HOUSING :

During the year 263 new dwellings were erected at a cost of £150,706. Plans were passed for 51 blocks of flats representing a value of £355,032. Additions to dwellings and flats numbered 857, valued at £78,757, making a total additional value of £584,495 in regard to residential premises.

The outstanding feature of housing developments is the rise in popularity of the 'flat' dwelling. The tendency is characteristic of an age of social and economic instability, radio and baby automobiles. As such, it is certain to develop still futher, changing the face of cities and introducing new factors into the already sufficiently complex problem of their hygiene administration.

From the hygienic point of view, no sound objections can be advanced against a system of housing which concentrates the population and facilitates sanitary supervision and services. It may reasonably be argued that such concentration is properly the first step in the social, economic and psychological salvage of the most depressed elements of the population. However, this argument does not apply so far in the case of Durban, where flat-dwellers are predominantly of the class of substantial wage- and salary earners.

The siting of blocks of flats present an immediate problem, particularly in the conjested areas of the Borough. The tendency to build on or close to street-lines, close to site-boundaries and on elongated plots with narrow frontages

must be checked. Control, however, is inherently difficult, owing to the lay-out and sub-division of sites not originally intended for this type of building. Some method of special control based on zoning, subdivision and site-utilization, must be considered for the proper regulation of the erection of flat-blocks.

Little progress has been made in the direction of relieving overcrowding and the provision of better housing for the poorest classes. In the absence of alternative accommodation for those dis-housed thereby, regulations under the Urban Areas Act largely lose their effectiveness in regard to the native slum-population. The Corporation Native Housing Scheme at Umlazi (100 houses) is virtually an expensive failure owing to the factors of distance from work and inadequacy of transport and shopping facilities which offsets the advantages of reasonable rental and superior environment.

In the Old Borough, the time has come - in view of low building costs- to bring pressure through the Public Health Act and relevant by-laws and the system of licensing control, to compel reconstruction of defective or overcrowded dwellings and lodging houses in the older and more congested parts of the Borough. A programme of the kind is being prepared for the coming Municipal year.

In the suburban areas added to the Borough two years ago, an immense problem of re-housing Indians and Natives awaits the local authority. As the survey submitted hereunder will show, some 30,000 people mainly Indians of the poorest class, are housed under slum conditions, often on entirely unsuitable sites. Some of the worst areas are

being/

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

being surveyed in detail with a view to early action under the Slum Act. No material progress with re-housing is, however, likely to be made until the local authority receives more substantial backing from the State in so far as the financial implications are concerned. In committing itself to a permanent liability on behalf of the employers of cheap Indian and Native labour, the local authority might easily, under existing housing-loan conditions, cripple its initiative at the outset. The experiment of the Umlazi Native village is a case in point, even discounting the adverse factor of distance from centre of employment.

The solution of Indian and Native housing depends upon either a raising of the wage earned by those people or a re-allocation of financial obligations as between State and local authorities, more stimulating to the latter. Neither proposition is a matter for independent action by any local authority. Both are national questions, awaiting a solution on national lines.

The following affords detailed information with respect to the various areas incorporated in the Borough two years ago :

GREENWOOD PARK AREA.

Non-European Population : It would appear that the Non-European population figures are somewhat on the low side which may be accounted for by the basing of estimates on the old Health Board Area less the additional area incorporated at Sea Cow Lake. In this event it will be necessary to increase the figures by approx. 800 Indians and 200 Natives.

DISTRIBUTION OF PREMISES CONSIDERED UNFIT FOR HABITATION :
The 722 structures scheduled are distributed as follows :-

Sea Cow Lake (Lots 8,9 & 10 Victoria County & Lot 2 Zeekoe Vallei)....	338.
Kenville District....................	21.
Riverside & Umgeni (Lots 3,4,5 & 6 Victoria County)	174.

Prospect Hall (Lots 1 & 12 Victoria County)	48.
Greenwood Park	13.
Redhill	13.
Avoca (Lots 18a & 18b Victoria County)	77.
Virginia Est. (Lots 17 & 25 Victoria County)	38.
TOTAL :	722.

Large Holdings of Land Leased out :

An outstanding feature is the number of shanties situated on certain large holdings of land, the owners of which lease out on a yearly tenancy small areas varying from a few acres at Sea Cow Lake to plots at Riverside barely sufficient to contain a shanty. The individual tenants have erected their own shacks on this leased land. Insecurity of tenure is a serious obstacle in the way of obtaining improved housing and sanitary conditions. Ground rents would appear to range from £1.10.0. to £3.0.0. per acre per annum at Sea Cow Lake to £1.0.0. per plot per annum at Riverside. Particulars of these large blocks of land are as follows :

Rem. of A of Lot 2, Zeekoe Vallei (K.P. Peter) 299 acres	74	structures.
Rem. of C of Lot 2, Zeekoe Vallei(Commercial Prop.Ltd) 192 acres.......	31	"
Rem. of D of Lot N.B.U. (E.M. Paruk) 20½ acres..........................	103	"
F. of B. of Lot 4, N.B.U. (Est. Gopaul and Rajpathy) 12 acres.)	41	"
Rem. of B of Lot 4, N.B.U.)		
Rem. of Z of Lot 4, N.B.U. (Pathia and Ramnarain). 8 acres	28	"

Note : All of the structures on the above blocks of land have not been included in the survey, some being satisfactory.

Congestion : Congestion together with accompanying insanitary conditions, absence of anything in the nature of a proper layout, road access, etc. is worst at Riverside. A. Paruk's property at Riverside on an area of land approx. 150 yards x 175 yards (5½ acres) there are 65 shacks in addition to 3 stores, a density of 12 shacks per acre. Most of the land along Riverside, if suitably laid out and developed, would make desirable building sites having fine views overlooking the town and beach.

Water Supply : Of the 398 premises scheduled as not being provided with a water supply practically all are dependent on the Umgeni River, which to the large Non-European population resident along its banks represents the only reliable source of supply. Water for domestic purposes is often carried up steep gradients for distances of a mile from the river.

Sanitary/

Sanitary Services : None of these premises is provided with a sanitary service, the existing method is simply to bury stercus in the yard and in many instances where the soil is of a tough or rocky nature disposal is most unsatisfactory.

General : The Indian population resident at Sea Cow Lake is agricultural, whereas the majority of those at Riverside are employed in town.

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SOUTH COAST JUNCTION AREA.

1. Right Bank of Umhlatuzana River - Foreshore of Y.Block.

77 Shanties owned and occupied by Indians mostly on leased land. A congested slum area. No water supply on properties except small collections of water in drums, barrels etc. and shallow wells. Water for washing purposes is obtained from the Umhlatuzana River which is polluted by factory effluents.

2. Bay Head Lands - Y. Block :

83 Shanties owned and occupied by Indian market-gardners on leased land comprising cultivated plots on an average of one acre and above. Low-lying ground reclaimed from swamps and subject to inundation by floods. Water supply on properties drawn from water holes.

Note: Approximately 170 shanties on S.A.R. & H. Administration's lands, under similar conditions to the above, have not been included in the survey as the Council has no jurisdiction over the premises.

3. Clairwood Flats :

88 Buildings, mostly slum shanties and barrack-rooms, tenanted by Indians and Natives. Those premises are variously situated in an Indian residential area. Water

Supply is derived from shallow wells, drums, barrels, etc.

4. Kings Rest, Mahommedan Trust Lands.

On high sloping ground above Kings Rest Railway Station, there are 24 shanties owned and occupied by descendants of Mazambique Natives. No water supply on properties; Corporation water is connected to a Mosque provided for the community.

5. Kings Rest - Estate T.W. Bower :

62 Shanties owned and occupied by Native and Indian squatters. No water supply on most properties. Some properties have water holes in the vlei.

6/

6. Kings View, Roman Catholic Mission Lands :

40 Shanties owned and occupied by Mission Natives. No water supply on most properties. Water is carried from water holes in the valley below.

7. Bluff Ridges :

90 Shanties owned and occupied by Native squatters and scattered over a large area on various properties. Water supply drawn from water holes in the Wentworth Vlei.

8. Fynnlands - Wellington Estate :

16 Shanties owned and occupied by Indian and Native fisherman on leased land. Congested conditions. No water supply on properties. Domestic water supply is obtained from a shallow well near Fynnlands Railway Station.

9. Housing of European & Coloureds :

Conditions for these classes, on the whole, are satisfactory in this area.

SOUTH COAST JUNCTION AREA - PART II.

Most dwellings considered unfit for human habitation are situated on the following :- Amanzinyama Block, Budree's Place, Merebank and Corporation Land (above Mowat's Quarries).

In those blocks conditions are particularly bad in respect of : dilapidated wood and iron structres, absence of proper foundations and flooring; absence of light and ventilation; undersize and overcrowding of rooms; absence of sanitary convenience; water provided from suspicious sources, such as polluted wells, streams and rain-water receptacles.

With the exception of the Roman Catholic Mission Lands and the Mahommedan Trust Lands, compartively few Natives are housed in unfit premises. Prior to incorporation, some 400 Barracks and dwellings had been demolished by Health Board action.

The disparity in the number of Natives & Indians shown in the area as compared with the Government census taken 10 years ago is accounted for by exclusion of part of the Old Board Area beyond the Umlaas River, where there is a fairly large Native and Indian population, settled in the cane areas at Isipingo, Reunion and Malakazi.

Housing conditions for Natives have been materially improved by the introduction of the Native Hostels and the provision of new accommodation by large employers of labour.

The Native population at present in this part of the area is estimated at 2,500. There are 1,722 Indian dwellings, housing approximately 10,332 people.

SYDENHAM AREA.

Population :

Owing to the non-incorporation of part of the old Health Board area, a more accurate estimate of the Indian and Native populations would be 12,000 and 8,500 respectively.

Housing :

Approximately 28% of the total number of houses surveyed are owned by squatters on leased land, i.e. Corporation Springfield Estate and land owned by the Natal Land and Colonization Co. known as Tika Singh Place.

SPRINGFIELD ESTATE :

Owners: Durban Corporation. Houses: 393. Population: 2,408 Indians. Average: 6.38 per house. Sanitary Accommodation - 6 pails, 111 pits, 276 with no sanitary accommodation.

In parts of Springfield Estate there is considerable congestion associated with insanitary conditions.

The houses are of scrap iron construction, unlined, unceiled, poorly lighted and ventilated, undersized, have earth floors (in many cases below ground level) and are filthy, soot be-grimed and vermin-infested throughout. The crudity and dilapidation of their construction precludes effective cleansing and de-verminisation.

Sanitary accommodation is extremely primitive or absent.

About twenty shacks have rainwater tanks, the remainder depend for their water supplies on the Umgeni River, surface sluits, water holes and shallow wells in many instances distant a quarter mile and more.

Tika Singh Place :

Owners: Natal Land & Colonization Co. Houses: 65. Population: 33 Indians, 46 Natives. Average per house: 5.83 persons. Sanitary accomodation: 56 pails privies, 9 with no sanitary accommodation.

MAYVILLE AREA.

Population :

There are 1,630 Indian-owned houses, accommodating approximately 10,000 people. The numbers of premises and persons affected by the survey are respectively 1,138 and 6,722.

UMHLATUZANA AREA.

Number of premises affected: 302; population: 1,918.

COMMENTARY :

Briefly the 28,493 people affected occupy 4,571 houses containing 12,191 rooms. Each house contains on an average 2,667 rooms. The average number of occupants per room is 2.337 and per house 6.233.

Inferior Native housing is most marked in Mayville, Sydenham and Greenwood Park; Indian in Greenwood Park and Sydenham.

Construction :

The houses, with few exceptions, are of very crude wood and iron construction, unlined, unceiled, unfloored and in a state of decay and dilapidation. In the majority of cases little heed has been paid to the fundamentals of character, size, structure and sanitation.

Overcrowding :

Overcrowding is prevalent, particularly amongst the Asiatics.

Kitchen Accommodation :

Where provided, generally consists of very inferior, dilapidated and badly lighted and ventilated wood and iron structures. Open fires are used in most cases and proper outlets for smoke are not provided.

Water Supply :

2,278 premises lack a proper water supply, i.e. in Greenwood Park 398; Sydenham 536; Mayville 840; South Coast Junction 261 and Umhlatuzana 243.

Durban Corporation water is, however, connected to some 147 properties, made up as follows: Greenwood Park 5; Sydenham 88; Mayville 34; South Coast Junction 17 and Umhlatuzana 3.

324/

324 Rain-water tanks are in use, viz :- Greenwood Park 77; Sydenham 180; Mayville 19; South Coast Junction 247and Umhlautzana 24.

Other supplies, which comprise wells, river-streams and rain-water stored in barrels etc. total 1,143, viz :- Greenwood Park 238; Sydenham 321; Mayville 189; South Coast Junction 364 and Umhlatuzana 31.

Sanitary Accommodation :

	No.of Premises Unprovided.	Types and Conditions of Sanitary Conveniences.				
		Privies.		Other Types	Condition.	
		Pail.	Pit.		Satisfactory.	Unsatisfactory.
Greenwood Pk.	420	205	102	-	45	262
Sydenham.	423	537	117	27	82	599
Mayville.	730	166	206	1	6	367
S.C.Junction.	354	250	60	1	18	293
Umhlatuzana.	239	54	11	-	-	65
TOTALS :	2,166	1,212	496	29	151	1,586

The privies are mostly wrongly situated, of very inferior and defective construction and in a more or less dilapidated and markedly insanitary condition.

Suitable floors, seats, risers or sanitary pails are only occasionally provided.

Prolific fly-development generally takes place in the pit privies, due partly to absence of fly-proofing.

Drainage for the disposal of foul liquids from privies used by Asiatics is lacking.

Bathrooms : are occasionally provided. They are, however, on a par with the other structures as regards construction and character.

Drainage: Absence of proper means for the collection and disposal of waste water from bathrooms, kitchens and privies, etc. results in the fouling of yard areas.

French drains are provided, in some cases, but in the Greenwood Park, Sydenham and elsewhere, this method cannot be used owing to the impervious nature of the soil.

Storm-water disposal is barely attempted.

My grateful thanks are due to Councillors for their heartening support of my endeavours to prosecute a strong policy of progressive hygiene and to the staff of the Department for their efficient service and loyal attachment to the best traditions of public service.

I am,

Your obedient servant,

(G.H. Gunn. M.D. Ch.B.D.P.H.)
MEDICAL OFFICER OF HEALTH.

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10 OCT 1934
TROPICAL DISEASE